

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

Revision	Change Description
06/12/2020	Document reference: R9: Highlighted clauses that require subcontractor flowdown Q718: Corrected SDRL number
07/29/2020	Document reference: R10: Q716 Alt 1: Added definition of steady rate production when using Z1.4 switching rules Q716 Alt 2: Added definition of steady rate production when using Z1.4 switching rules Q717: Clarified that only rejected lots require FSAR/CAP approval prior to presenting for acceptance Q718: Specified that all production and manufacturing related equipment must be available Q720: Added FY20-24 Government Prime Contract Number Q720,III,4: Completed sentence Q728: Removed obsolete contract reference from ATT0012; Added 'Validation Not Required' level Q734: Add hard copy ADC for BLATs Q737: Updated to include SDRL No. S737
10/30/2023	Document reference: R11: Q736: COTS/MIL spec. streamlining Q741: COTS/MIL spec. streamlining
10/07/2024	Document reference: R12: Q723: Revised to clarify that this Q clause is required to be flowed down. Q757: new clause for SCAR responses, to be flowed to all suppliers; Hydra and other programs.
1/21/2025	Change Rev to EFF DATE in front of Quality Clause revision to match PO flow down. Removed highlighting and minor formatting changes to improve readability. No changes made to flow down content.

**Q701 Consigned Material Reporting (EFF DATE 06/03/20)**

This clause requires the following SDRL deliverable(s): **S701** - See Exhibit A for details.

You are provided materials by GD-OTS that are used in the products you manufacture for GD-OTS. An accounting of these materials that are consumed during the manufacture of a lot of product but not included in product in the shipment (e.g. parts consumed during destructive testing, Lot Acceptance Testing, or scrapped in process as part of a scrapped assembly or sub assembly) must be accounted for. Include, on your Certificate of Conformance (CoC) for each lot, an inventory accounting by part number of the quantity of consigned parts consumed during the manufacture of the lot that are not included in the delivered product.

**Q702 Industry Standard Revisions \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

Revisions or replacements to Government/Industry Standards referenced in the Technical Data Package (TDP) or referenced within these Standards, including those for raw materials, shall be considered process changes. (Examples of Government Standards are documents controlled by the Government and typically begin with MIL-STD, MIL-DTL, MIL-PRF, etc. Industry Standards are those controlled by organizations such as ASTM, ANSI, SAE, etc.) Should there be a need to move to a new revision after completion of the Baseline Qualification, Seller shall request and must receive written GD-OTS approval prior to implementing any revision or replacement to a referenced Government/Industry Standard in order to determine the revised standard's impact on product. Seller's request for such a change shall be formally submitted to the GD-OTS Subcontract Manager using the GD-OTS Process Change Request Form (PCR), QS-FM-10.7.1. The PCR template is available on the GD-OTS SharePoint collaboration site.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

The revision of record shall be the revision documented in the Qualified Baseline.

**Seller shall flow the substance of this clause to its subcontractors for items purchased in support of this Purchase Order, including this paragraph, changing the relationship of the parties and processes as appropriate to preserve the intent of the words. This clause need not be flowed to suppliers of Commercial Off-The-Shelf (COTS) items.**

#### **Q703 ISO 9001 or AS9100 Registration (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): S703 - See Exhibit A for details.**

The Seller shall provide and maintain a Quality Management System that is registered to ISO 9001, Quality Management Systems – Requirements or SAE AS9100, Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations. The registration body shall be accredited by a recognized accreditation body such as the ANSI-ASQ National Accreditation Board (ANAB). Compliance with the provisions of this clause does not relieve the Seller of final responsibility to furnish acceptable supplies or services as specified herein. The Seller shall make available for review-to GD-OTS and the Government, quality system manuals procedures, planning and all other documentation that comprise the Seller's Quality Management System for both hardware and software. GD-OTS and the Government may review the quality system documentation and may perform any necessary inspections, evaluations, or audits to confirm conformance to requirements and adequacy of the quality system.

#### **Q704 ISO 9001 or AS9100 Compliance (EFF DATE 05/20/20)**

The Seller shall provide and maintain a Quality Management System that is compliant to ISO 9001, Quality Management Systems – Requirements or SAE AS9100, Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations. Compliance with the provisions of this clause in no way relieves the seller of the final responsibility to furnish acceptable supplies or services as specified herein. The Seller shall make available for review by GD-OTS and the Government, quality system manuals, procedures, planning and all other documentation that compromise the Seller's quality system for both hardware and software. GD-OTS and the Government may review the quality system documentation and may perform any necessary inspections, evaluations, or audits to confirm conformance to requirements and adequacy of the quality system.

#### **Q705 Quality Management System – AS9003 (EFF DATE 05/20/20)**

The Seller shall provide and maintain a Quality Management System (QMS) that complies with SAE AS9003, Inspection and Test Quality Systems Requirements for Aviation, Space, and Defense Organizations. The Seller shall demonstrate compliance for the life of this contract by:

- Providing GD-OTS with a copy of current SAE AS9100 or ISO 9001 registration certificate and all subsequent updates; or,
- Periodically passing an SAE AS9003 compliance audit performed by GD-OTS representatives.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

Compliance with the provisions of this clause in no way relieves the Seller of the final responsibility to furnish acceptable supplies and/or services as specified herein.

The Seller shall make available for review by GD-OTS and the Government, quality system manuals procedures, planning and all other documentation that compromise the Seller's quality system for both hardware and software. GD-OTS and the Government may review the quality system documentation and may perform any necessary inspections, evaluations, or audits to confirm conformance to requirements and adequacy of the quality system.

#### **Q706 Calibration System Requirements \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

The Seller shall maintain a calibration system IAW ISO 10012:2003 or equivalent. Equivalent systems must be approved by GD-OTS. All calibrated equipment shall be traceable to the National Institute of Standards and Technology (NIST) or equivalent international standards. The Seller and all subcontractors shall maintain and ensure all production and manufacturing related equipment, including inspection and test equipment; tools; fixtures; jigs are appropriate and capable of the required accuracy and precision for determining conformance to all technical and contractual requirements, design, performance, and process characteristics.

Compliance with the provisions of this clause in no way relieves the Seller of the final responsibility to furnish acceptable supplies or services as specified herein.

This provision shall be applicable to all inspection, test and measuring equipment supplied by the buyer for the use of the Seller, as well as the Seller's own equipment.

**Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.**

#### **Q707 Supplier Audits (EFF DATE 05/20/20)**

The Seller and all of Seller's subcontractors, at any tier, shall accommodate GD-OTS audits. Periodically, GD-OTS will facilitate a system, process, and/or product audit at each subcontractor's facility. These audits may include Government representatives depending on the complexity of the product, the size of the facility, and the content of the audit. The activity may require several days to complete. A minimum of twenty (20) calendar days advance notification will be given to the Seller. GD-OTS and Seller will negotiate a mutually agreeable schedule. Audit follow-up visits will be scheduled and conducted, if required.

#### **Q708 Quality Records \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

Quality records pertinent to acceptance of raw materials, components or end item assembly lots shall be retained ten (10) years after GD-OTS acceptance of the associated end item lots. This includes quality acceptance records for all components and assemblies contained in the end item assembly lot.

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

Quality in-process records shall be retained for five (5) years after production or as long as residual production inventory is retained in storage, whichever is longer.

The records shall be readily retrievable and stored in an environment that prevents damage, deterioration, or loss.

**Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.**

**Q709 Quality Assurance Program Plan (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): S709 - See Exhibit A for details.**

The Seller shall provide to GD-OTS a Quality Assurance Program Plan (QAPP) in Seller format. The QAPP shall contain the information required to identify how the contractor shall satisfy the specific quality tasks within the Master Subcontract Agreement (MSA)/Purchase Order (PO) and describe the Seller's understanding of all documentation tasks for meeting the contractual requirements.

The QAPP shall include the technical and manufacturing aspects of production, raw materials, facilities involved, and personnel required.

The QAPP shall provide the organizational structure and responsibilities that will influence the quality of the products.

Elements which shall be addressed include quality planning, implementation, control and monitoring; significant interfaces that affect products, contracts/contract review, problem reporting and resolution; evaluation of audit results; authorization for deviation to quality policy; control of corrective and preventive actions and supplier quality management.

The QAPP shall be submitted within sixty (60) calendar days after MSA/PO issue and shall be approved by GD-OTS.

**Q710 Notification of DCMA/Government Request for Corrective Action \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

**This clause requires the following SDRL deliverable(s): S710 - See Exhibit A for details.**

Upon receipt and/or notification of a DCMA (or other Government agency (e.g. US Army QA)) Corrective Action Request (CAR) that impacts product supplied to GD-OTS, including notification for system level CARs that may not be related to a specific product, the supplier shall provide notification to the GD-OTS buyer within two (2) workdays and forward a copy of the CAR to GD-OTS.

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

A copy of the CAR response submitted to DCMA shall also be submitted to GD-OTS upon submission to the DCMA. GD-OTS shall be notified of any changes in due dates for the response and also when the CAR is formally closed by the issuing agency.

**Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.**

**Q711 Supplier Quality Management Plan (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): S709 - See Exhibit A for details.**

The Seller shall develop policies and procedures for managing Supplier Quality. The Supplier Quality Management Plan shall identify processes for selecting, qualifying and managing suppliers, managing product and processes, flowing quality requirements to suppliers, product acceptance, Source Inspection, and establishing metrics for continuously monitoring and rating supplier quality performance. Where a QAPP has been required (reference clause Q709), the Supplier Quality Management Plan shall be documented in the QAPP.

**Q712 \*\*RESERVED\*\***

**Q713 Nonconforming and Noncompliant Material \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

The Seller shall develop, implement, and maintain a nonconforming material management system. The system shall be used for positively controlling the identification, documentation, segregation, and disposition requirements of NCM. The nonconforming material system shall be used for tracking, analyzing to determine root cause, and assuring effective corrective/preventive action implementation.

**No Material Review Authority (MRA) is delegated to Seller or its subcontractors.** Seller and all sub-tier suppliers are not authorized to disposition nonconforming or non-compliant material produced under this Agreement "Use-As-Is" or "Repair."

Seller is not authorized to rework material unless the rework is performed in accordance with a GD-OTS, approved rework procedure. Approval is dependent on evidence of a previously validated rework process or will require a new process validation. Reworked material shall be restored to design conformance. Each shipment shall include records of reworked material contained within the shipment.

"Use-As-Is" and "Repair" dispositions require approval from GD-OTS prior to implementation. Seller is not authorized to retest material without prior GD-OTS approval.

**Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.**

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

**Q714 Disclosure of Nonconforming or Noncompliant Material \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

**This clause requires the following SDRL deliverable(s): S714 - See Exhibit A for details.**

The Seller shall notify the GD-OTS buyer in writing immediately after discovery of any nonconformance or noncompliance that may exist in delivered product. The notification shall include a description of the nonconformance or noncompliance, potential risk or product impact, GD-OTS purchase order number, part number, lot number, affected serial numbers, and quantity of nonconforming or noncompliant parts.

**Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.**

**Q715 Product Acceptance System \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

**This clause requires the following SDRL deliverable(s): S709 - See Exhibit A for details.**

The Seller shall plan, develop, implement, control and maintain an overall product acceptance system that demonstrates compliance to all technical and contractual requirements. Where a QAPP has been required (reference clause Q709), the Product Acceptance System shall be documented in the QAPP. The Product Acceptance System shall address system, subsystem, and component requirement verification, raw material inspection, receiving inspection, in-process inspection, source inspection, and final acceptance testing at all levels, including lower tier suppliers.

**Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.**

**Q716 Sampling Procedures \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

The Seller shall perform or have performed all inspections and tests to demonstrate that all material furnished under this contract conforms to all technical and contractual requirements. The Seller shall use the sampling procedures and AQL levels specified within the Technical Data Package (TDP). If the TDP does not specify a sampling procedure, the Seller shall utilize ANSI/ASQ Z1.4 (EFF DATE 2013), General Inspection Level II, Single Sampling Plan for Normal Inspection. If the TDP does not specify an AQL for a characteristic, the following AQLs shall be used: Major Characteristics shall have an AQL of 0.40% and Minor Characteristics shall have an AQL of 0.65%. Unless otherwise specified in the TDP, Special/Safety/Critical Characteristics shall be inspected 100%.

The Seller shall maintain objective evidence of the completion and acceptance of all inspections and tests to the proper Sampling Procedure and AQL.

# GENERAL DYNAMICS

Ordnance and Tactical Systems

## QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

**The Seller shall flow the substance of this clause, including this sentence, to its subcontractors that create characteristics identified in the TDP as Safety, Special, Critical, Major, or Minor, changing the relationship of the parties as appropriate to preserve the intent of the words.**

### **PLEASE VERIFY YOUR AQL LEVELS AS THEY MAY HAVE CHANGED**

#### **Q716-Alt 1 Sampling Procedures \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 07/29/20)**

The Seller shall perform or have performed all inspections and tests to demonstrate that all material furnished under this contract conforms to all technical and contractual requirements. Critical/Safety/Special characteristics shall be inspected 100%. Wherever ANSI/ASQ Z1.4 General Inspection Levels are listed in the TDP or if the TDP does not specify a sampling procedure for a system, subsystem, component or material, the contractor shall utilize General Inspection Level II Single Sampling Plan for Normal Inspection for all major characteristics and General Inspection Level I for all minor characteristics at the start of inspection. The use of Switching Procedures of ANSI/ASQ Z1.4, Para 8.3 is allowed, and if utilized, the contractor shall ensure that objective evidence of inspection is retained at the origin of manufacture and inspection. Production shall be considered to be at a steady rate when no break in production exceeds 90 days.

The use of Acceptance Quality Limit (AQL) is authorized and shall be used unless otherwise specified in the TDP. Critical/Safety/Special characteristics shall be inspected 100%. Wherever AQLs are listed in the TDP, the AQL for Major characteristics shall be 0.65%, and the AQL for Minor characteristics shall be 2.5%. In circumstances where the TDP has a less stringent AQL(s), the requirement in the TDP shall take precedence.

The Seller shall maintain objective evidence of the completion and acceptance of all inspections and tests to the proper Sampling Procedure and AQL.

**The Seller shall flow the substance of this clause, including this sentence, to its subcontractors that create characteristics identified in the TDP as Safety, Special, Critical, Major, or Minor, changing the relationship of the parties as appropriate to preserve the intent of the words.**

### **PLEASE VERIFY YOUR AQL LEVELS AS THEY MAY HAVE CHANGED**

#### **Q716-Alt 2 Sampling Procedures \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 07/29/20)**

The Seller shall perform or have performed all inspections and tests to demonstrate that all material furnished under this contract conforms to all technical and contractual requirements. Critical/Safety/Special characteristics shall be inspected 100%. Wherever ANSI/ASQ Z1.4 General Inspection Levels are listed in the TDP or if the TDP does not specify a sampling procedure for a system, subsystem, component or material, the contractor shall utilize General Inspection Level II Single Sampling Plan for Normal Inspection for all major characteristics and General Inspection Level I for all minor characteristics at the start of inspection. The use of Switching Procedures of ANSI/ASQ Z1.4, Para 8.3 is

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

allowed, and if utilized, the contractor shall ensure that objective evidence of inspection is retained at the origin of manufacture and inspection. Production shall be considered to be at a steady rate when no break in production exceeds 90 days.

If the TDP does not specify an AQL for a characteristic, the following AQLs shall be used: Major Characteristics shall have an AQL of 0.40% and Minor Characteristics shall have an AQL of 0.65%. Unless otherwise specified in the TDP, Special/Safety/Critical Characteristics shall be inspected 100%. In circumstances where the TDP has a less stringent Sampling Table/Procedure, the requirement in the TDP shall take precedence.

The Seller shall maintain objective evidence of the completion and acceptance of all inspections and tests to the proper Sampling Procedure and AQL.

**The Seller shall flow the substance of this clause, including this sentence, to its subcontractors that create characteristics identified in the TDP as Safety, Special, Critical, Major, or Minor, changing the relationship of the parties as appropriate to preserve the intent of the words.**

**PLEASE VERIFY YOUR AQL LEVELS AS THEY MAY HAVE CHANGED**

**Q717 Lot Acceptance Test \*\*Flowdown to Subcontractors Required\*\* (07/29/20)**

**This clause requires the following SDRL deliverable(s): S717A, B, C, D, & E - See Exhibit A for details.**

The Seller shall perform Lot Acceptance Tests (LAT) in accordance with TDP requirements. Ballistic LAT (BLAT) shall be performed at the Government Test Center in Yuma, AZ in accordance with Government provided test plans. Access to the Yuma Test Center as well as related test services, including Explosive Ordnance Disposal and recovery efforts will be provided by the Government. GD-OTS will coordinate BLAT testing schedules with the Government. The Seller shall prepare and submit for GD-OTS approval non-ballistic LAT Plans in accordance with DI- NDTI-80603 no later than seventy-five (75) calendar days prior to the LAT event; LAT shall not occur on items before GD-OTS and Government approval of the LAT plan.

The Seller shall provide written notification (e-mail is acceptable) to the assigned Government representative(s) and the GD-OTS buyer a minimum of two (2) workdays in advance if the DCMA representative is resident on site and a minimum of seven (7) workdays advance notification if the DCMA representatives not resident on site IAW FAR 52.246-2 before non-ballistic LAT testing is scheduled to commence.

The Seller shall provide LAT Reports in accordance with DI-NDTI-80809 for all non-ballistic LAT tests performed. Reports shall be provided no later than twenty-one (21) calendar days after completion of the LAT.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

The Seller shall provide written notification to the GD-OTS buyer of all LAT failures, including individual item failures that do not result in lot rejection, within two (2) workdays of the failure. The Seller will be notified by GD-OTS of BLAT failures that occur at the Yuma Test Center. The Seller shall prepare and submit a detailed Failure Analysis Report and Corrective Action Plan (FSAR/CAP) IAW DI-SESS-80255 for all LAT/BLAT failures that result in a lot rejection, as well as for individual component failure(s) that do not result in lot rejection. In the event that the LAT/BLAT failure(s) does not result in lot rejection, the Seller shall document and implement corrective and preventive actions for continuous improvement. The seller shall not submit any component or end item to the GD-OTS or the Government for inspection and acceptance (DD Form 250) for the rejected lot(s) prior to Government approval of the FSAR/CAP. The FSAR/CAP is due no later than twenty-one (21) calendar days after the failure incident.

**The Seller shall flow the substance of this clause, including this sentence, to its subcontractors that perform LAT, changing the relationship of the parties as appropriate to preserve the intent of the words.**

#### **Q718 Inspection and Test Equipment Validation Plans and Reports (EFF DATE 07/29/20)**

**This clause requires the following SDRL deliverable(s): S718A, B, & C - See Exhibit A for details.**

The Seller and its suppliers shall maintain and ensure all production and manufacturing related equipment, including inspection and test equipment (ITE); tools; fixtures; jigs are available and appropriate and capable of the required accuracy and precision for determining conformance to all technical and contractual requirements, design, and performance and process characteristics. All inspection and test equipment (standard and non-standard) shall be calibrated with accuracies traceable to NIST or equivalent international standards.

Where a Baseline Qualification FAT is required, inspection and test equipment used to inspect characteristics identified as Safety, Special, Critical or Major are subject to validation. An ITE Validation plan will be authored by GD-OTS with input from the supplier. Suppliers are required to comply with all aspects of the approved plan. ITE Validation is subject to approval by GD-OTS and the validation shall be completed and approved by GD-OTS prior to the execution of the Baseline Qualification FAT. Repeatability and Reproducibility studies are required as part of the ITE Validation for Test Equipment and Inspection Equipment that is new, modified, or relocated. Variable R&R studies shall have a P/T ratio less than or equal to 0.25.

Where new or modified inspection or test equipment is to be used to inspect or test characteristics classified in the Technical Data Package as Safety, Special, Critical, or Major, the Seller shall submit an Inspection and Test Equipment Validation Plan. The Validation Plan shall be submitted in the format of the GD-OTS Gage Validation Plan Template, QS-TP-10.7.8. The template can be obtained on the GD-OTS SharePoint collaboration site.

The Seller is responsible for ensuring that existing inspection and test equipment is capable of performing the required inspection with sufficient accuracy and precision for determining conformance to all

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

technical and contractual requirements in accordance with Q740 -Inspection and Test Measurement Guard Banding.

- An Inspection and Test Equipment Validation Plan shall not be executed until approved by GD-OTS. Should GD-OTS reject a Plan submission, a revision to the Plan shall be submitted to GD-OTS within ten (10) calendar days of the rejection.
- Provision shall be made for GD-OTS and/or Government representatives to witness all or any portion of the execution of the Validation Plan at their discretion. As such a minimum of fourteen (14) calendar day notice is required prior to beginning execution of the Plan.

Upon completion of the execution of the Validation Plan the Seller shall prepare submit a Validation Report to GD-OTS within fourteen (14) calendar day of completion of the execution of the validation. The Validation Report shall be submitted in the format of the GD-OTS Gage Validation Report Template, QS-TP-10.7.9. The template can be obtained on the GD-OTS SharePoint collaboration site.

**Use of Inspection and Test equipment shall not be initiated prior to approval by GD-OTS.**

#### **Q719 Master List of Inspection and Test Equipment (EFF DATE 05/20/20)**

The Seller shall maintain on site a copy of the listing of all the GD-OTS approved equipment to be used for production acceptance inspection and tests of characteristics classified as Safety, Special, Critical, Major, or Minor. The listing shall be complete to the level of sub-tier suppliers that perform the acceptance inspection on these characteristics. The listing shall include: (1) item drawing number; (2) detailed equipment description (brand, model, serial number, schematic and/or drawing shall be provided for unique equipment, etc.); (3) equipment accuracy; and (4) equipment tolerance. GD-OTS will create the master list with input from the supplier. Upon completion of the list, GD-OTS will flow to the supplier a revision controlled copy of the master list for each part number the supplier provides. This flow will be through a modification to the Purchase Order (PO) or Long Term Agreement (LTA). Subsequent modifications to the Master List will be flowed through modifications to the PO or LTA. The Seller shall maintain a copy of the list and ensure that a copy of the list is available for in plant review by GD-OTS and the Government at the Seller's site and the site of any affected sub-tier supplier.

Where Standard Measuring Equipment (SME) as defined in QS-AP-10.7.1 is used, the identification number of the unit expected to be used for the Baseline Qualification FAT will be listed on the Master List of Inspection and Test Equipment in the Serial Number/Identification Number Column. In the Description of Equipment column, the description shall be followed by the words "or equivalent." For the purposes of SME, equivalent SME is defined as SME of the same make and model as the listed piece of equipment, or the same make but a different model provided the resolution and accuracy of the gage is as good as or better than the listed piece of equipment, or a different make and similar model provided the resolution and accuracy of the gage is as good as or better than the listed piece of equipment. This will apply only to SME and shall not be applied to test equipment and other items not considered SME, for example,

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

electronic testers, radiographic equipment, coordinate measuring machines, etc. If multiples of equipment not considered SME are to be used, the serial number/identification number of each piece of such equipment shall be listed.

#### **Q720 Baseline Qualification First Article Test (EFF DATE 07/29/20)**

**This clause requires the following SDRL deliverable(s): S720A, B, & C - See Exhibit A for details.**

The Seller shall perform Baseline Qualification First Article Testing (FAT) prior to initial delivery on the W31P4Q-20-D-0023 (i.e. FY20-24) government prime contract for all items not previously validated on the W31P4Q-14-C-0154 (i.e. FY14-18) government prime contract. This is to ensure that the systems, subsystem, component, and material comply with all TDP requirements. The Baseline Qualification FAT shall include verification of all TDP characteristics and tests as documented in the prints, specifications, etc.

#### I. Requirements Prior to Execution of the Baseline FAT

##### 1. Baseline FAT Plan

a. GD-OTS will authorize the Baseline Qualification FAT Plan and will seek input from the supplier as needed to ensure accuracy and adequacy of the plan. Suppliers are required to comply with all aspects of the approved plan.

i. The Plan will cover all characteristics of the TDP, prints, specifications, etc. To the extent that a sub tier supplier generates characteristics referenced by an applicable print or specification, these characteristics shall be incorporated in the plan. Since the Baseline Qualification FAT Plan may be extensive and extend to sub tier supplier's facilities, the Seller shall provide GD-OTS an anticipated timeline for execution of the various pieces of the FAT.

The use of standard rework procedures shall be documented and included in the Baseline Qualification Plan and validated as part of the execution. The Seller shall work with GD-OTS in planning the content of the Baseline Qualification FAT Plan to satisfy the needs of the Seller.

ii. GD-OTS will notify the Seller when the plan has been approved for execution and coordinate schedule with the Seller.

iii. GD-OTS will generate and provide to the Seller data sheets in accordance with the requirements of SAE Aerospace Standard AS9102, using Form 1: Part Number Accountability; Form 2: Product Accountability – Raw Material, Specifications, and Special Process(es), Functional Testing; and Form 3: Characteristic Accountability, Verification and Compatibility Evaluation. The Seller shall supply information regarding the gaging/test equipment to be used to accomplish each required inspection. The Seller's responsibility shall be to enter the results of each inspection/test

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

on the appropriate AS9102 forms, provide required material and process certifications, etc. at the time of the execution of the Baseline Qualification FAT.

iv. Unless otherwise specified in the TDP, first article sample quantities shall be 25 for Safety, Special, Critical and Major Characteristics, 10 for Minor Characteristics, 2 for Unlisted Characteristics, and 1 for Reference and Basic Characteristics. Sample sizes for validation shall be as noted on the AS9102 data sheets.

v. A series of AS9102 data sheets will be provided for each end item deliverable to GD-OTS, applicable sub-assemblies, sub-components and raw materials.

b. GD-OTS will provide to the Seller a “ballooned” print numbering each characteristic, dimension, and note.

c. The Seller shall provide a Baseline Process Flow Map for each end item deliverable to GD-OTS. The baseline map shall include process step description, equipment used at that process step (including make, model, and serial number), the name, number, and revision level of any process work instructions applicable to that operation. The map shall also include a description of all inspection and test equipment used at that process step; indicate if Statistical Process Control (SPC) is used at that process step, any standard equipment adjustments and whether there are any approved rework processes. Baseline Process Flow Maps shall also be supplied for sub tier suppliers that supply components that are detailed in a print as well as for suppliers of Special Processes (e.g. painting, plating, chromate finishing, etc.). COTS items, raw materials and distributor supplied items are exempted from the Baseline Process Flow Map requirement. The Baseline Process Flow Map shall be submitted in the format of the GD-OTS Process Flow Template, QS-TP-21.0.1. The Baseline Process Flow Map shall be provided to GD-OTS prior to the execution of the Baseline Qualification FAT. The template can be obtained on the GD-OTS SharePoint collaboration site.

d. Requirements for Inspection and Test Equipment Validation covered in Clause Q718 shall be completed prior to execution of the Baseline Qualification FAT.

II. Baseline Qualification FAT Execution

1. Once the Baseline FAT Plan has been approved, provision shall be made for GD-OTS and/or Government representatives to witness all or any portion of the execution of the Baseline Qualification FAT at their discretion. Seller shall notify GD-OTS in writing what date they will be ready to begin execution of the Baseline Qualification FAT a minimum of thirty-five (35) calendar days in advance of that date to allow for required notification to the customer.

2. Samples for the Baseline Qualification FAT shall be manufactured using the process and equipment that will be used for production and shall be selected from the first production lot. Where MIL-STD-1168 lot numbering is required, lots shall be identified as a First Article Lot in

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

accordance with MIL-STD-1168. The size of this lot shall be approved by GD-OTS for items at the deliverable part number level. First Article lots from sub-tier suppliers will be expected to be of sufficient size to support the First Article lot at the deliverable part number level.

3. Testing and Inspection shall be performed at the facility at which the inspection and test equipment resides.

#### III. After Baseline Qualification FAT Execution

1. Upon successful execution of the Plan the supplier shall provide GD-OTS with all test reports, certifications, and data sheets completed as part of the execution of the Baseline Qualification FAT. This information shall be provided to GD-OTS within seven (7) calendar days of the completion of the execution of the Baseline Qualification FAT.

2. Production beyond the first article lot may not begin until contractually directed by GD-OTS.

3. GD-OTS will prepare the Baseline Qualification FAT Report for submission to the Government for approval. The Seller shall provide assistance to GD-OTS as needed to support any clarifications or additional information required to respond to Government questions or concerns.

4. Residual components of the Baseline Qualification Lot shall be considered sellable product provided they meet all TDP requirements, acceptance inspection AQL, and LAT requirements.

#### **Q721 Statistical Process Control with Report (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): [S721A & B](#) - See Exhibit A for details.**

Seller shall submit a Statistical Process Control Program Plan for GD-OTS approval, in Seller format, using the GD-OTS SPC Program Plan Template QS-TP-21.0.4 and ISO 11462-1 as guidance. The SPC Program Plan shall be submitted within ninety (90) calendar days of initial Master Subcontract or Purchase Order issue, whichever is earlier.

Seller shall submit a Statistical Process Control Data Report for applicable characteristics and/or processes in accordance with Seller's approved Product and Process Control Plans. This report shall be prepared in accordance with the GD-OTS SPC Data Sheet. The Seller is responsible for downloading the latest template version from the GD-OTS SHAREPOINT Collaboration Site. The report shall include data analysis, control charts and supporting raw data. The data submission shall be in electronic format compatible with Microsoft Excel or Access. The Statistical Process Control Data Report shall document the Root Cause, Corrective Action, and Preventive Actions for applicable variable characteristics and/or processes that exhibit a Process Capability (Cpk) < 1.33 and attributes characteristics and/or processes that exceed 65 Defective Parts Per Million (DPPM).

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

Seller's Statistical Process Control Data Report shall be submitted monthly for each current month, by the 15th of the next month.

**Q722 Source Control (EFF DATE 05/20/20)**

A supplier specified on the source control drawing is the only acceptable source for this material. If material is purchased from a supplier or distributor, not specified on the drawing, evidence must be provided that the supplier specified on the drawing actually manufactured the material.

**Q723 Lot Numbering – General \*\*Flowdown Required\*\* (EFF DATE 08/20/24)**

**Seller shall ensure that this requirement is followed by and flowed to their supply base and sub-tier supply base.**

The Seller shall ensure that each end item and sub-component is traceable to the product batch/lot number, the date of manufacture, the configuration revision level, and the process revision level. A batch/lot is defined as product that has been blended, mixed, or fabricated during an uninterrupted manufacturing run using the same tools, process, and material. Components in an end item assembly lot shall be traceable to supplier lots and base material lots.

**Q724 Lot Numbering – MIL-STD-1168 \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

Product lots shall be lotted in accordance with the requirements of MIL-STD-1168.

**Seller shall flow the substance of this clause to its subcontractors supplying components on the MIL-STD-1168 Lot Identification List, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.**

A list of part numbers requiring MIL-STD-1168 lotting is included in the Purchase Order (PO) or Section E of the Long Term Agreement (LTA). Subsequent modifications to this list will be flowed through modifications to the PO or LTA.

**Q725 Soldering \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 06/12/20)**

Seller shall perform fabrication and soldering of electrical and electronic assemblies in accordance with IPC J-STD-001, Class 3. or equivalent as agreed to by the supplier and GD-OTS.

**Seller shall flow the substance of this clause to its subcontractors performing soldering of electrical components or assemblies, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.**

**Q726 Shelf Life – 80% (EFF DATE 05/20/20)**

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

Age controlled material must have 80% of its shelf life remaining at the time of shipment. Each shipment is to be identified with the date of manufacture/date of expiration. The container(s) shall not be damaged.

#### **Q727 Critical Characteristics Control Plan **\*\*Flowdown to Subcontractors Required\*\*** (EFF DATE 06/12/20)**

**This clause requires the following SDRL deliverable(s): S727A, B, C, & D - See Exhibit A for details.**

The Seller's processes shall be designed with the objective of preventing the creation or occurrence of critical characteristic defects as documented in the Technical Data Package. The Seller shall create and maintain a Critical Characteristic Control Plan (CCCP) in Seller format covering all safety/special or critical characteristics specified in the TDP and contained in the products provided by the Seller. GD-OTS Template, QS-TP-10.7.12 may be used but is not required. The CCCP shall be submitted prior to the start of production and shall require GD-OTS approval.

**Seller shall flow the substance of this clause to its subcontractors that produce safety/special or critical characteristics as part of their process, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.**

The CCCP shall contain at a minimum the following:

- A Process Failure Mode and Effects Analysis (PFMEA) document analyzing all potential modes that could result in production of a critical item defect nonconformance, countermeasures to be taken for each failure mode to reduce or prevent occurrence, mistake proofing efforts and methods for determining that processes creating critical characteristics are robust, capable and under control. GD-OTS PFMEA Template, QS-TP-21.0.2 shall be used. The template can be obtained on the GD-OTS SharePoint collaboration site.
- Inclusion or reference to all procedures, work and handling instructions and process controls relating to any critical characteristics.
- A Critical Defect Reaction Plan detailing the actions to be taken when a Critical Defect has been produced or exceeds a threshold level.
- Critical Defect Reporting Plan. A lot report of the quantity of product produced and number of critical defects produced during the processing of the lot (by part number and critical characteristic number) shall be provided to GD-OTS with each lot shipment.
- A Critical Defect Escape Plan detailing the containment action to be taken and reporting protocol should a Critical Defect Escape occur. A Critical Defect Escape occurs when a non-conformance of a critical characteristic is detected after the planned inspection/test acceptance point utilizing the approved Inspection and Test Equipment (ITE). Whenever there is a Critical Defect Escape, an initial Critical Defect Notification shall be provided to the GD-OTS Buyer in writing within two

# GENERAL DYNAMICS

Ordnance and Tactical Systems

## QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

(2) calendar days of the critical defect discovery. The notification shall include a description of the Critical Defect, potential risk or product impact, GD-OTS Purchase order number, part number, lot numbers affected (and serial numbers when applicable) and the operation at which the Critical defect was discovered. The notification shall indicate the immediate steps taken to identify and contain suspect product. A root cause Failure Analysis Report and Corrective Action Plan is required for each Critical defect escape occurrence. End items or components shall not be submitted for GD-OTS/Government inspection or acceptance for the affected lot(s) or subsequent lot(s) until the Failure Analysis Report and Corrective Action Plan have been approved.

- Method(s) by which the processes that create critical characteristics shall be ensured to be robust, capable and under control.
- Method(s) and schedule that the seller shall use to assess the reliability and effectiveness of its critical processes to prevent generating critical non-conformances.

### **Q728 Changes to a Qualified Baseline (Process Change) \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 07/29/20)**

**This clause requires the following SDRL deliverable(s): S728A, B, C, D, E, & F - See Exhibit A for details.**

Changing the Qualified Baseline is a formal time consuming process that requires GD-OTS and US Government approvals. All proposed changes should be planned months in advance of required implementation. Seller shall request and receive written GD-OTS approval prior to making any changes that deviate from the qualified baseline (either that qualified in the Baseline Qualification FAT or by subsequent qualified modification). This change requirement shall be applicable to the lowest level of supplier in the supply chain at which the characteristic is generated. Attachment 0012 (included below) contains a listing of changes that require notification and approval. Seller must make a formal request for any such change. Seller's request for such a change shall be formally submitted to the GD-OTS Buyer using the GD-OTS Process Change Request (PCR) Form, QS-FM-10.7.1. The form can be obtained on the GD-OTS SharePoint collaboration site. Note: the manufacturer of a Commercial/COTS item used for Baseline Qualification is considered part of the Qualified Baseline and subject to these requirements should there be a need to change the manufacturer. Commercial/COTS items may be purchased from any distributor as long as the manufacturer is the manufacturer established as part of the Qualified Baseline. (Commercial/COTS items are as defined in FAR 2.101)

GD-OTS will determine the level of verification required for every change. Depending on the level of change, Validation Not Required, Internal Validation, First Piece Inspection (FPI), a First Article Test (FAT), a Tailored FAT, or a Requalification may be required. The Seller shall not implement such changes, or commence validation activities without prior review and approval of GD-OTS. Once the appropriate level of validation has been agreed upon, the Seller shall proceed with validation in accordance with the following requirements. Validation activities shall be performed with the facilities, production processes,

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

methods, materials, personnel and equipment that will be used for production. Documentation associated with the approved baseline (i.e. Process Flow Map(s), Process Control Plan(s), and Critical Characteristic Control Plan) shall be updated as defined in the approved PCR, in conjunction with the validation activity.

**FAT/TFAT** – Seller submits Plan using the GD-OTS FAT Plan Template, QS-TP-10.7.1. Execution of the validation shall not begin until the Plan has been approved by GD-OTS. If a Plan is rejected, Seller has fifteen (15) calendar days to submit a revision. Upon approval of a Plan, Seller must give a minimum of thirty-five (35) calendar day notice of the planned execution date. Suppliers are required to comply with all aspects of the approved plan.

Unless otherwise specified in the TDP, first article sample quantities shall be 25 for Safety, Special, Critical and Major Characteristics, 10 for Minor Characteristics, 2 for Unlisted Characteristics, and 1 for Reference and Basic Characteristics.

Once the Plan has been executed, seller has ten (10) calendar days after completion of test to submit a validation Report using the GD-OTS FAT Report Template, QS-TP-10.7.2. Should a report be rejected by the Government, Seller has ten (10) calendar days to submit a revision. The template can be obtained on the GD-OTS SharePoint collaboration site. Production with incorporation of the change shall not begin without written authorization from GD-OTS.

**FPI** – Seller submits plan using the GD-OTS FPI Plan Template, QS-TP-10.7.3. Execution of the validation shall not begin until the Plan has been approved by GD-OTS. If a plan is rejected, Seller has fifteen (15) calendar days to submit a revision. Upon approval of a plan, Seller must give a minimum of thirty-five (35) calendar day notice of the planned execution date. Suppliers are required to comply with all aspects of the approved plan.

Once the plan has been executed, seller has fifteen (15) calendar days after completion of test to submit a validation report using the GD-OTS FPI Report Template, QS-TP-10.7.4. Should a report be rejected, Seller has fifteen (15) calendar days to submit a revision. The template can be obtained on the GD-OTS SharePoint collaboration site. Production with incorporation of the change shall not begin without written authorization from GD-OTS.

**Internal Validation** is performed at the cognizance of the Seller. Seller shall retain records of the results of the internal validation and have them available for review upon request.

**Validation Not Required** - Notification is not required for Attachment 0012 Ref#s 308 and 309 however, these activities shall be documented internally by the subcontractor making the change. A PCR notification and GD-OTS approval is required for Ref# 310.

**Inspection/Test Equipment Validation** – Inspection and Test Equipment Validation shall be completed in accordance with the requirements of Q718.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

#### Attachment 0012 PROCESS CHANGES

REF#	Description of Changes
100	<b>Design Changes</b>
101	Design changes or changes resulting in change to system MOD designation
102	Any change impacting safety or system performance requirements
103	Changes that affect items requiring outside agency involvement (i.e. Navy Weapon System Explosive Safety Review Board (WSESRB), Army Fuze Board, etc.)
104	Changes that impact either system or component level interface requirements
105	Changes resulting from unexpected events such as part obsolescence
106	Use of a lower reliability part
107	Performance data for the new or redesigned item not sufficient to demonstrate that it will perform to the same extent as the item it is replacing
200	<b>Changes to Manufacturing Facility</b>
201	Manufacturing plant location change for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
202	Manufacturing plant location change for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
203	Out of production over twelve months for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
204	Out of production over twelve months for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
205	Addition of a production line for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
206	Addition of a production line for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
207	Dismantling and restarting the production line for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
208	Dismantling and restarting the production line for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
209	Machine Control Upgrades for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
210	Machine Control Upgrades for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
211	Replacing an existing piece of machinery or test equipment for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
212	Replacing an existing piece of machinery or test equipment for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
213	Adding a new machine for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
214	Adding a new machine for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
215	Machine Modification for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
216	Machine Modification for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

217	Changing the sequence of the manufacturing process that affects explosives or for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
218	Changing the sequence of the manufacturing process for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
219	Moving test equipment/machines within a facility for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
220	Moving test equipment/machines within a facility for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
<b>300</b>	<b>Changes to Manufacturing Processes</b>
301	Major change in manufacturing process (i.e. Casting instead of forging or hog-out)
302	Minor change in manufacturing process (i.e. Heating/Cooling durations, new rework processes, new lubricant material, in-process dimensional range) that affects explosives or for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
303	Minor change in manufacturing process (i.e. Heating/Cooling durations, new rework processes, new lubricant material, in-process dimensional range) for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
304	Replacement or major repairs to a casting and press molds for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
305	Replacement or major repairs to a casting and press molds for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
306	Minor changes to casting and press molds to maintain parting lines and reduce flashing for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
307	Minor changes to casting and press molds to maintain parting lines and reduce flashing for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
308	Preventative Maintenance or replacement of normal machining wear items (i.e. saw blades, cutting tools, etc.)
309	Performing normal machine offsets due to tool wear
310	Minor changes to work instructions that have no effect on the process (i.e. clarification)
<b>400</b>	<b>Changes to Material or Supply of Material</b>
401	Change in supplier of explosives or end item part for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
402	Change in supplier of end item part for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
403	Change in supplier of the material for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
404	Change in supplier of the material for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
405	Change in supplier for component within an end item part with a characteristic classified as Safety, Special, Critical, Major or Minor.
406	Change in supplier for component within an end item part without a characteristic classified as Safety, Special, Critical, Major or Minor.
407	Change from one qualified test laboratory to another qualified test laboratory for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
408	Change from one qualified test laboratory to another qualified test laboratory for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
<b>500</b>	<b>Plating and Coating</b>
501	New Supplier or Change in Supplier for <b>Plating or Coating</b>
502	Changes in the supply of chemicals used for cleaning or processing during <b>Plating or Coating</b>
503	Changes in cleaning, process times, temperatures, chemical concentrations, etc. used during <b>Plating or Coating</b>
<b>600</b>	<b>Changes Not Listed within Attachment 12</b>

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

**Q728-1 Pre-Validation Activity (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): [S728-1](#) - See Exhibit A for details.**

GD-OTS requires that a pre-validation run be performed prior to execution of any validation activity (BQFAT per Q720/Q748, FAT, TFAT, and FPI per Q728/Q748, and ITE per Q718). A pre-validation run is performed to prepare for the actual, scheduled validation mitigating the potential risk of a failure during validation.

The pre-validation run shall fully replicate the production process that will be used and validated during the BQFAT/FAT/TFAT/FPI.

The pre-validation run will be performed on the full quantity of samples, on all characteristics, and with all associated testing and performance requirements as defined in the validation plan, unless otherwise approved by GD-OTS. GD-OTS may witness all pre-validation activities. All equipment to be used in must be identified and located where it will be used in production. In addition, all paperwork will be fully completed (AS9102 Forms, certifications, test reports, etc.) and approved by GD-OTS. The pre-validation run activities must be completed before customer notification will be issued by GD-OTS (35 calendar day notice of the planned execution date). Parts manufactured as part of the pre-validation runs or prior to the validation testing shall not be presented for delivery/acceptance.

**Q728-Alt 1 Changes to a Qualified Baseline (Process Change) **\*\*Flowdown to Subcontractors Required\*\*** (EFF DATE 06/12/20)**

Seller shall not make any changes to material (including supplier), process, inspection and test equipment, or manufacturing and inspection documentation (work instructions) without prior written authorization from their GD-OTS Buyer. Seller shall document and submit proposed changes to the GD-OTS Buyer using GD-OTS Process Change Request (PCR) Form, QS-FM-10.7.1. These levels may include: Validation Not Required, Internal Validation, First Piece Inspection (FPI), a First Article Test (FAT), a Tailored FAT, or a Requalification. Once the appropriate level of validation has been agreed upon, the Seller is responsible for conducting of the validation activity. The Seller shall not implement such changes, or commence validation activities without GD-OTS coordination and approval. Validation activities shall be performed in accordance with the approved validation plan and with the facilities, production processes, methods, materials, personnel and equipment that will be used for production.

**[Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.](#)**

**Q729 Process Control Plan (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): [S729](#) - See Exhibit A for details.**

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

A Process Control Plan shall be submitted using the GD-OTS Process Control Plan Template, QS-TP-21.0.3 or GD-OTS approved supplier format. Control Plans shall cover at a minimum TDP identified Safety, Special, Critical, and Major Characteristics. Control Plans shall be revision controlled and revised with any approved changes to the qualified baseline. Revised Control Plans shall be submitted to GD-OTS for approval. The template can be obtained on the GD-OTS SharePoint collaboration site.

#### **Q730 Process Failure Modes and Effects Analysis (PFMEA) (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): S730 - See Exhibit A for details.**

A PFMEA is required for this part. The PFMEA shall be submitted using the GD-OTS PFMEA Template QS-TP-21.0.2 or GD-OTS approved supplier format. The PFMEA shall cover at a minimum TDP identified Safety, Special, Critical, and Major Characteristics. The document will analyze all potential modes that could result in production of a nonconformance; it will also include countermeasures to be taken for each failure mode to reduce or prevent occurrence and mistake proofing efforts and methods. The template can be obtained on the GD-OTS SharePoint collaboration site.

#### **Q731 Source Inspection Verification (EFF DATE 05/20/20)**

GD-OTS Source Inspection is required prior to shipment from your plant. Unless otherwise directed by the purchase order, Seller is to schedule GD-OTS Source Inspection a minimum of two (2) working days prior to service need date via the Verify, Inc. web site at <https://www.verifyglobal.com/>

#### **Q732 Government Source Inspection (EFF DATE 05/20/20)**

Unless otherwise directed by the purchase order, Government Source Inspection (GSI) is required prior to shipment from your facility. The Government shall be notified of the availability of parts for inspection a minimum of two (2) workdays in advance of the required inspection date if DCMA is resident at the Seller's facility and seven (7) workdays in advance of the inspection date if DCMA is not resident at the Seller's facility. The Seller shall ensure that objective sign-off approval (written or electronic) is obtained from the government representative performing the source inspection prior to shipment of the items. Government sign-off approval shall be included in the documentation package that is shipped with the item.

If GD-OTS Source Inspection (Q731) is also required, the Seller shall ensure that objective signoff approval (written or electronic) is obtained from the GD-OTS representative performing the source inspection prior to presenting the items for government source inspection. The Seller is responsible for scheduling the facilities, equipment, inspection articles, prior GD-OTS source inspection, and manpower to be ready for Government inspection.

#### **Q733 Advance Ship Authorization (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): S733 - See Exhibit A for details.**

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

Advance Ship Authorization (ASA) from GD-OTS quality is required prior to shipment from your plant. Requirements for ASA are contained in the ASA form for the part to be shipped. The ASA form QS-FM-53.0.1 shall be completed for each shipment and submitted to GD-OTS. GD-OTS Quality will provide written authorization to ship upon review and approval of ASA form. The ASA package and evidence of GD-OTS approval shall be delivered with the packing slip. The shipment will not be accepted by GD-OTS without evidence of ASA approval. Note: ASA approval does not constitute automatic product acceptance by GD-OTS.

#### **Q734 Ammo Data Card (ADC) – WARP \*\*Flowdown to Subcontractors Required\*\* (EFF DATE 07/29/20)**

**This clause requires the following SDRL deliverable(s): S734 - See Exhibit A for details.**

The Seller shall prepare Ammunition Data Cards for all production lots in accordance with MIL-STD-1168, and shall ensure the ADC is entered into the Worldwide Ammunition Data Repository Program (WARP) – Munitions History Program electronic system which is located at <https://mhpwarp.redstone.army.mil/> for Government Inspection and approval.

A list of part numbers requiring ADCs is included in the Purchase Order (PO) or Section E of the Long Term Agreement (LTA).

**Seller shall flow the substance of this clause to its subcontractors supplying components that require ADCs.**

Seller Lot Report submittals shall include of a single paper copy of each Ammunition Data Card.

Part numbers requiring Ammunition Data Cards are included in the Purchase Order (PO) or Section E of the Long Term Agreement (LTA). Subsequent modifications will be flowed through modifications to the PO or LTA.

When ballistic tests are required, one hard copy generated from the WARP program, signed and dated by the GARA, shall be sent to the proving ground with sample shipment.

#### **Q735 Lot Report (Delivered with Lot) (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): S735 - See Exhibit A for details.**

Seller shall provide the following lot documentation with each shipment (may be delivered via hardcopy with shipment or electronic media to buyer).

##### 1) Seller Certificate of Conformance (CoC)

Seller shall provide a CoC with each lot for the delivered end item. This CoC shall be in the format of GD-OTS CoC template QS-TP-53.0.1. This template as well as a guide to completion of the template (QS-GD-53.0.1) can be found on the SharePoint collaboration site.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

#### 2) Sub-tier Supplier Certificate of Conformance (CoC)

A CoC shall be provided by the Seller for each supplier used in the supply chain

The CoC shall list and contain:

- Seller's name and address
- Purchase order (PO) number
- Quantity of shipment
- Drawing number with drawing revision, specification number with revision, and any GD-OTS CN(s) listed in the TDP Status Report
- Seller lot identification (e.g. lot number)
- Material and process lot identification (e.g. material heat number or lot identifier, material finish and treatment lot identifier) representing the all materials and processes, including special processes, required by technical documentation.
- The CoC must include printed name, title, and signature of official signing the CoC.
- Statement attesting to compliance with all applicable technical requirements listed in the applicable portion of the Technical Data Package.
- Signature, title, and date of authorized seller quality assurance representative.

For any certifications on which the Seller was not the manufacturer of an item, certifications must be traceable to and contain a copy of a certification from the manufacturer.

#### 3) Materials and Process Lot Certification

Seller shall provide certification documentation and/ or objective evidence, at all levels of the supply chain, for all required materials and processes, as listed in the TDP. The documents should contain an authorized signature and date.

The Material Certification shall list and contain:

- Applicable drawings and specifications with revision.
- Lot test data (e.g. chemical, physical, and mechanical properties) required by drawings or applicable specifications.
- All material and process lot identification shall be listed on the CoC and be traceable to the CoC.

#### 4) Special Process Certification

Seller shall provide a CoC, in compliance with section 1) above for all special processes (e.g. plating, coatings, cleaning, chemical treatments, heat treatment, non-destructive testing) performed in accordance with listed drawings and specifications. Test data and other associated data is not required to be provided with the lot documentation but shall be kept on file for review by GD-OTS upon request.

#### 5) Commercial/COTS Items

Commercial Off the Shelf (COTS) items are those that meet the requirements of the definitions of commercial items and COTS items as defined in FAR 2.101. Suppliers of COTS items shall supply a Certificate of Analysis with the first shipment against this contract for all items not previously validated

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

on the W31P4Q-14-C-0154 (i.e. FY14-18) government prime contract, and a Certificate of Conformance for all subsequent shipments.

A Certificate of Analysis (COA) will contain:

- Test/inspection results demonstrating conformance to any requirements in the governing specifications (e.g. chemistry, strength, plating, etc.)
- The revision of the governing specification to which the part conforms
- The purchaser's purchase order number
- Quantity and lot number(s) supplied,
- A statement of conformance to the requirements on the purchaser's purchase order signed by an authorized official of the company.

Both Certificates of Analysis and Certificates of Conformance shall be traceable to similar certificates from the original manufacturer.

When the TDP drawing for a commercial/COTS item contains dimensional information, the purchaser of the commercial/COTS item is responsible for the ongoing conformance of the item throughout the life of this contract. The purchaser of the commercial/COTS item shall provide a copy of their receiving inspection documentation for the part number demonstrating conformance to the dimensional requirements with the first shipment against this contract.

For suppliers to GD-OTS that purchase commercial/COTS items in support of their GD-OTS purchase order, the contents of this section shall be flowed to the commercial/COTS supplier as well as clause Q724 (Lot Numbering – MIL-STD-1168), when required.

**Q736 Certificate of Conformance (CoC) - COTS/MIL-SPEC (EFF DATE 10/30/23)**

**This clause requires the following SDRL deliverable(s): S736 - See Exhibit A for details.**

Commercial Off the Shelf (COTS) items are those that meet the requirements of the definitions of commercial items and COTS items as defined in FAR 2.101.

Suppliers of COTS items shall supply a Certificate of Analysis with the first shipment against this contract for all items not previously validated on the W31P4Q-14-C-0154 (i.e. FY14-18) government prime contract, and a Certificate of Conformance for all subsequent shipments.

A Certificate of Analysis (COA) will contain:

- Test/inspection results demonstrating conformance to any requirements in the governing specifications (e.g. chemistry, strength, plating, etc.)
- The revision of the governing specification to which the part conforms
- The purchaser's purchase order number
- Quantity and lot number(s) supplied

# GENERAL DYNAMICS

Ordnance and Tactical Systems

## QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

- A statement of conformance to the requirements on the purchaser's purchase order signed by an authorized official of the company.

A Certificate of Conformance (COC) shall be in supplier's format.

Both Certificates of Analysis and Certificates of Conformance shall be traceable to certificates from the original manufacturer and a copy of the original manufacturer's certification shall be attached to the CofA or CoC.

### **Q737 Lot Report (Sub-tier report retained by Seller) (EFF DATE 07/29/20)**

**This clause requires the following SDRL deliverable(s): [S737](#) - See Exhibit A for details.**

Seller shall provide the following lot documentation with each shipment (may be delivered via hardcopy with shipment or electronic media to buyer).

#### 1) Seller Certificate of Conformance (CoC)

Seller shall provide a CoC with each lot for the delivered end item. This CoC shall be in the format of GD-OTS CoC template QS-TP-53.0.1. This template as well as a guide to completion of the template (QS-GD-53.0.1) can be found on the SharePoint collaboration site.

Seller shall retain the following lot documentation and be able to provide copies to GD-OTS within 24 hours upon request.

#### 1) Sub-tier Supplier Certificate of Conformance (CoC)

A CoC shall be provided by the Seller for each supplier used in the supply chain

The CoC shall list and contain:

- Sellers name and address
- Purchase order (PO) number
- Quantity of shipment
- Drawing number with drawing revision, specification number with revision, and any GD-OTS CN(s) listed in the TDP Status Report
- Seller lot identification (e.g. lot number)
- Material and process lot identification (e.g. material heat number or lot identifier, material finish and treatment lot identifier) representing the all materials and processes, including special processes, required by technical documentation.
- The CoC must include printed name, title, and signature of official signing the CoC.
- Statement attesting to compliance with all applicable technical requirements listed in the applicable portion of the Technical Data Package.
- Signature, title, and date of authorized seller quality assurance representative.

For any certifications on which the Seller was not the manufacturer of an item, certifications must be traceable to and contain a copy of a certification from the manufacturer.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

#### 2) Materials and Process Lot Certification

Seller shall provide certification documentation and/ or objective evidence, at all levels of the supply chain, for all required materials and processes, as listed in the TDP Status Report documentation, used in producing the item. The documents should contain an authorized signature and date.

The Material Certification shall list and contain:

- Applicable drawings and specification and the drawing / specification revision.
- Lot test data (e.g. chemical, physical, and mechanical properties) required by drawings or applicable specifications.
- All material and process lot identification shall be listed on the CoC and be traceable to the CoC

#### 3) Special Process Certification

Seller shall provide a CoC, in compliance with section 1) above for all special processes (e.g. plating, coatings, cleaning, chemical treatments, heat treatment, non-destructive testing) performed in accordance with listed drawings and specifications. Test data and other associated data is not required to be provided with the lot documentation but shall be kept on file for review by GD-OTS upon request.

#### 4) Commercial/COTS Items

Commercial Off the Shelf (COTS) items are those that meet the requirements of the definitions of commercial items and COTS items as defined in FAR 2.101. Suppliers of COTS items shall supply a Certificate of Analysis with the first shipment against this contract for all items not previously validated on the W31P4Q-14-C-0154 (i.e. FY14-18) government prime contract, and a Certificate of Conformance for all subsequent shipments.

A Certificate of Analysis (COA) will contain:

- Test/inspection results demonstrating conformance to any requirements in the governing specifications (e.g. chemistry, strength, plating, etc.)
- The revision of the governing specification to which the part conforms
- The purchaser's purchase order number
- Quantity and lot number(s) supplied
- A statement of conformance to the requirements on the purchaser's purchase order signed by an authorized official of the company.

Both Certificates of Analysis and Certificates of Conformance shall be traceable to similar certificates from the original manufacturer.

When the TDP drawing for a commercial/COTS item contains dimensional information, the purchaser of the commercial/COTS item is responsible for the ongoing conformance of the item throughout the life of this contract. The purchaser of the commercial/COTS item shall provide a copy of their receiving inspection documentation for the part number demonstrating conformance to the dimensional requirements with the first shipment against this contract.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

For suppliers to GD-OTS that purchase commercial/COTS items in support of their GD-OTS purchase order, the contents of this section shall be flowed to the commercial/COTS supplier as well as clause Q724 (Lot Numbering – MIL-STD-1168), when required.

#### **Q738 Objective Evidence (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): S738 - See Exhibit A for details.**

Seller shall supply with each lot, objective evidence of successful completion of all TDP required sample inspections. Objective evidence shall include at a minimum, the part number, lot quantity, characteristics inspected, sampling system and inspection level used for each characteristic, required sample size, actual sample size, acceptance number, quantity accepted, quantity rejected, acceptance or failure of the inspection, date of inspection and name or identification of the inspecting person.

#### **Q739 Right of Access (EFF DATE 05/20/20)**

Seller shall grant GD-OTS, GD-OTS customer/government representatives and regulatory authorities' right of access to all applicable records and areas of all facilities, at any level of the supply chain, involved with the products and/or services delivered under this purchase order.

#### **Q740 Inspection and Test Measurement Guard Banding (EFF DATE 05/20/20)**

When the measurement accuracy of the inspection/test measurement system used to inspect/test characteristics identified as Safety, Special, Critical, Major, or Minor exceeds 10% of the tolerance, the inspection tolerance shall be guard banded to assure acceptance of only conforming product unless otherwise approved by GD-OTS. The Guard Banded tolerance shall have its lower limit increased and upper limit decreased by the measurement accuracy. If the measurement accuracy exceeds 20% of the tolerance, GD-OTS approval is required before the Inspection/Test Equipment may be used. (Measurement accuracy is defined as the 95% confidence interval of the measurement uncertainty and is determined by the manufacturer's statement of accuracy or result of a Gage Repeatability and Reproducibility study).

In addition, the measurement accuracy of the Inspection/Test equipment shall be at least one additional significant digit to the right of the specification (for example if the specification for a characteristic is .315", the accuracy of the Inspection/Test equipment must be +/- .000X" or better where X can be any digit between 1 and 9.) Note that this requirement applies to the feature being measured and is independent of the tolerance band. If this requirement is not met, GD-OTS approval is required before the Inspection/Test equipment may be used and if approved, Guard Banding as noted above may be required to be applied; that is, the Guard Banded tolerance shall have its lower limit increased and upper limit decreased by the measurement accuracy.

#### **Q741 Lot Report - COTS/MIL-SPEC (Delivered with Lot) (EFF DATE 10/30/23)**

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

**This clause requires the following SDRL deliverable(s): S741 - See Exhibit A for details.**

Seller shall provide the following lot documentation with each shipment (may be delivered via hardcopy with shipment or electronic media to buyer).

#### 1) Seller Certificate of Conformance (CoC)

Seller shall provide a CoC with each lot for the delivered end item. A Certificate of Conformance (COC) shall be in supplier's format.

#### 2) Sub-tier Supplier Certificate of Conformance (CoC)

A CoC shall be provided by the Seller for each supplier used in the supply chain and shall be in the sub-tier supplier's format.

#### 3) Materials and Process Lot Certification

Seller shall provide certification documentation and/or objective evidence, at all levels of the supply chain, for all required materials and processes, as listed in the TDP Status Report documentation, used in producing the item.

The Material certification shall list and contain:

- Applicable drawings and specification with revision.
- Lot test data (e.g. chemical, physical, and mechanical properties) required by drawings or applicable specifications.
- All material and process lot identification shall be listed on the CoC and be traceable to the CoC.

#### 4) Special Process Certification

Seller shall provide a CoC, in compliance with section 1) above for all special processes (e.g. plating, coatings, cleaning, chemical treatments, heat treatment, non-destructive testing) performed in accordance with listed drawings and specifications. Test data and other associated data is not required to be provided with the lot documentation but shall be kept on file for review by GD-OTS upon request.

#### **Q742 Corrosion Prevention and Control (EFF DATE 05/20/20)**

The Seller shall take precautions during operations to maintain the integrity of corrosion prevention requirements and to prevent the introduction of corrosion or corrosive elements. All parts and assemblies shall be given adequate protection to prevent corrosion and physical damage during temporary or long term storage and shipment.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

Seller shall flow the substance of this clause to subcontractors responsible for the handling, processing, or storage of metal parts, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

#### **Q743 Statistical Process Control Plan (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): S743 - See Exhibit A for details.**

Seller shall submit a Statistical Process Control Program Plan for GD-OTS approval, in Seller format, using the GD-OTS SPC Program Template QS-TP-21.0.4 and ISO 11462-1 as guidance. The Guide can be found on the entry page for the GD-OTS SharePoint collaboration site. The SPC Program Plan shall be submitted within ninety (90) calendar days of initial Master Subcontract or Purchase Order issue, whichever is earlier. Seller shall maintain SPC data and provide this data to GD-OTS or its representatives on request for review at the Seller's facility.

#### **Q744 Tooling and Gaging Requirements (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): S744 - See Exhibit A for details.**

When billed to GD-OTS, Seller shall provide the following gage/tool documentation as evidence that the tooling is complete (may be delivered via hardcopy or electronic media to buyer):

- Objective evidence of requirements conformance for each gage/tool. (e.g. Inspection/CMM report, Calibration report, material certification, etc.)
- Completed Special Tooling Report (GD-OTS Form#: SCM-FRM-8.11.0.2, supplied with Purchase Order)
- Picture(s) of each gage/tool purchased
- Picture(s) of each gage/tool marking

#### **Q745 Internal and External Quality Audits Alternate (EFF DATE 05/20/20)**

Seller shall conduct internal and external audits. Quality auditing shall apply to all operations and processes, including activities ranging from purchasing to materials processing at component vendors, through end item assembly, packaging, and testing.

GD-OTS and/or its Customer shall be allowed to attend and provide input at external audits conducted by Seller. Seller shall notify GD-OTS by email at least thirty (30) calendar days in advance of each quality audit planned to be conducted by the Seller.

Seller shall document the conducting and results of all audits on an internal report which shall be maintained on file. Records of audits shall be provided to GD-OTS or its Customer for review on an as requested basis.

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

The Seller shall accommodate up to two GD-OTS audits per year. One of these audits, at GD-OTS election may be at any of Seller's subcontractors at any tier. Additional audits shall be deemed a "change". These audits may include system, process, and/or product audit at the subcontractor's facility. These audits may include Government representatives depending on the complexity of the product, the size of the facility, and the content of the audit. The activity may require as many as three (3) days to complete. A minimum of twenty (20) calendar days advance notification will be given to the Seller and GD-OTS and Seller will negotiate a mutually agreeable schedule. Audit follow-up visits will be scheduled and conducted if required. Spontaneous audits resulting from cause and corrective action type activity shall not be counted towards the two audits per yearly criteria.

**Q746 Statistical Process Control Plan Alternate (EFF DATE 05/20/20)**

Seller shall utilize its existing Statistical Process Control Plan. Seller shall maintain SPC data and provide this data to GD-OTS or its representatives on request for review at the Seller's facility.

**Q747 – Shelf Life – 66% (EFF DATE 05/20/20)**

Age controlled material must have 66% of its shelf life remaining at the time of shipment. Each shipment is to be identified with the date of manufacture/date of expiration. The container(s) shall not be damaged.

**Q748 Commercial Baseline Qualification First Article Test (EFF DATE 05/20/20)**

The Seller shall perform Baseline Qualification First Article Testing (FAT) to ensure that the systems, subsystem, component, and material comply with all TDP requirements. The Baseline Qualification FAT shall include verification of all TDP characteristics and tests as documented in the prints, specifications, etc.

**I. Requirements Prior to Execution of the Baseline FAT**

**1. Baseline FAT Plan**

a. GD-OTS will author the Baseline Qualification FAT Plan and will seek input from the supplier as needed to ensure accuracy and adequacy of the plan. Suppliers are required to comply with all aspects of the approved plan.

i. The Plan will cover all characteristics of the TDP, prints, specifications, etc. To the extent that a sub tier supplier generates characteristics referenced by an applicable print or specification, these characteristics shall be incorporated in the plan. Since the Baseline Qualification FAT Plan may be extensive and extend to sub tier supplier's facilities, the Seller shall provide GD-OTS an anticipated timeline for execution of the various pieces of the FAT.

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

The use of standard rework procedures shall be documented and included in the Baseline Qualification Plan and validated as part of the execution. The Seller shall work with GD-OTS in planning the content of the Baseline Qualification FAT Plan to satisfy the needs of the Seller.

ii. GD-OTS will notify the Seller when the plan has been approved for execution and coordinate schedule with the Seller.

iii. GD-OTS will generate and provide to the Seller data sheets in accordance with the requirements of SAE Aerospace Standard AS9102, using Form 1: Part Number Accountability; Form 2: Product Accountability – Raw Material, Specifications, and Special Process(es), Functional Testing; and Form 3: Characteristic Accountability, Verification and Compatibility Evaluation. The Seller shall supply information regarding the gaging/test equipment to be used to accomplish each required inspection. The Seller's responsibility shall be to enter the results of each inspection/test on the appropriate AS9102 forms, provide required material and process certifications, etc. at the time of the execution of the Baseline Qualification FAT.

iv. Sample sizes for validation shall be as noted on the AS9102 data sheets.

v. A series of AS9102 data sheets will be provided for each end item deliverable to GD-OTS, applicable sub-assemblies, sub-components and raw materials.

b. GD-OTS will provide to the Seller a "ballooned" print numbering each characteristic, dimension, and note.

c. The Seller shall provide a Baseline Process Flow Map for each end item deliverable to GD-OTS. The baseline map shall include process step description, equipment used at that process step (including make, model, and serial number), the name, number, and revision level of any process work instructions applicable to that operation. The map shall also include a description of all inspection and test equipment used at that process step; indicate if Statistical Process Control (SPC) is used at that process step, any standard equipment adjustments and whether there are any approved rework processes. Baseline Process Flow Maps shall also be supplied for sub tier suppliers that supply components that are detailed in a print as well as for suppliers of Special Processes (e.g. painting, plating, chromate finishing, etc.). COTS items, raw materials and distributor supplied items are exempted from the Baseline Process Flow Map requirement. The Baseline Process Flow Map shall be submitted in the format of the GD-OTS Process Flow Template, QS-TP-21.0.1. The Baseline Process Flow Map shall be provided to GD-OTS prior to the execution of the Baseline Qualification FAT. The template can be obtained on the GD-OTS SharePoint collaboration site.

d. Requirements for Inspection and Test Equipment Validation covered in Clause Q718 shall be completed prior to execution of the Baseline Qualification FAT.

II. Baseline Qualification FAT Execution

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

1. Once the Baseline FAT Plan has been approved, provision shall be made for GD-OTS representatives to witness all or any portion of the execution of the Baseline Qualification FAT at their discretion. Seller shall notify GD-OTS in writing what date they will be ready to begin execution of the Baseline Qualification FAT a minimum of thirty-five (35) calendar days in advance of that date to allow for required notification to the customer.

2. Samples for the Baseline Qualification FAT shall be manufactured using the process and equipment that will be used for production and shall be selected from the first production lot. Where MIL-STD-1168 lot numbering is required, lots shall be identified as a First Article Lot in accordance with MIL-STD-1168. The size of this lot shall be approved by GD-OTS for items at the deliverable part number level. First Article lots from sub-tier suppliers will be expected to be of sufficient size to support the First Article lot at the deliverable part number level.

3. Testing and Inspection shall be performed at the facility at which the inspection and test equipment resides.

#### III. After Baseline Qualification FAT Execution

1. Upon successful execution of the Plan the supplier shall provide GD-OTS with all test reports, certifications, and data sheets completed as part of the execution of the Baseline Qualification FAT. This information shall be provided to GD-OTS within seven (7) calendar days of the completion of the execution of the Baseline Qualification FAT.

2. Production beyond the first article lot may not begin until contractually directed by GD-OTS.

3. GD-OTS will prepare the Baseline Qualification FAT Report. The Seller shall provide assistance to GD-OTS as needed to support any clarifications or additional information required.

4. Residual components of the Baseline Qualification Lot shall be considered sellable product provided they meet all TDP requirements, acceptance inspection AQL, and LAT requirements.

Changes to the Qualified Baseline is a formal time consuming process that requires GD-OTS approval. The proposed changes should be planned months in advance of required implementation. The table below contains a listing of changes that require notification and approval. Seller shall request and receive written GD-OTS approval prior to making any changes that deviate from the qualified baseline (either that qualified in the Baseline Qualification FAT or by subsequent qualified modification). This change requirement shall be applicable to the lowest level of supplier in the supply chain at which the characteristic is generated. The table below contains a listing of changes that require notification and approval. Seller must make a formal request for any such change. Seller's request for such a change shall be formally submitted to the GD-OTS Buyer. Note: the manufacturer of a Commercial/COTS item used for Baseline Qualification is considered part of the Qualified Baseline and subject to these requirements

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

should there be a need to change the manufacturer. Commercial/COTS items may be purchased from any distributor as long as the manufacturer is the manufacturer established as part of the Qualified Baseline. (Commercial/COTS items are as defined in FAR 2.101)

GD-OTS will determine the level of verification required for every change. Depending on the level of change, No Validation, Internal Validation, First Piece Inspection (FPI), a First Article Test (FAT), a Tailored FAT, or a Requalification may be required. The Seller shall not implement such changes, or commence validation activities without prior review and approval of GD-OTS. Once the appropriate level of validation has been agreed upon, the Seller shall proceed with validation in accordance with the following requirements. Validation activities shall be performed with the facilities, production processes, methods, materials, personnel and equipment that will be used for production.

FAT/TFAT – Seller submits Plan using the GD-OTS FAT Plan Template, QS-TP-10.7.1. Execution of the validation shall not begin until the Plan has been approved by GD-OTS. If a Plan is rejected, Seller has fifteen (15) calendar days to submit a revision. Upon approval of a Plan, Seller must give a minimum of thirty-five (35) calendar days' notice of the planned execution date. Once the Plan has been executed, seller has fifteen (15) calendar days to submit a validation Report using the GD-OTS FAT Report Template, QS-TP-10.7.2. Should a report be rejected, Seller has fifteen (15) calendar days to submit a revision. The template can be obtained on the GD-OTS SharePoint collaboration site. Production with incorporation of the change shall not begin without written authorization from GD-OTS.

FPI – Seller submits plan using the GD-OTS FPI Plan Template, QS-TP-10.7.3. Execution of the validation shall not begin until the Plan has been approved by GD-OTS. If a plan is rejected, Seller has fifteen (15) calendar days to submit a revision. Upon approval of a plan, Seller must give a minimum of thirty-five (35) calendar day notice of the planned execution date. Once the plan has been executed, seller has fifteen (15) calendar days to submit a validation report using the GD-OTS FPI Report Template, QS-TP-10.7.4. Should a report be rejected, Seller has fifteen (15) calendar days to submit a revision. The template can be obtained on the GD-OTS SharePoint collaboration site. Production with incorporation of the change shall not begin without written authorization from GD-OTS.

Internal Validation is performed at the cognizance of the Seller. Seller shall retain records of the results of the internal validation and have them available for review upon request.

Inspection/Test Equipment Validation – Inspection and Test Equipment Validation shall be completed in accordance with the requirements of Q718.

Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

**Attachment 0012**  
**PROCESS CHANGES**  
W31P4Q-14-C-0154

REF#	Description of Changes
<b>100</b>	<b>Design Changes</b>
101	Design changes or changes resulting in change to system MOD designation
102	Any change impacting safety or system performance requirements
103	Changes that affect items requiring outside agency involvement (i.e. Navy Weapon System Explosive Safety Review Board (WSESRB), Army Fuze Board, etc.)
104	Changes that impact either system or component level interface requirements
105	Changes resulting from unexpected events such as part obsolescence
106	Use of a lower reliability part
107	Performance data for the new or redesigned item not sufficient to demonstrate that it will perform to the same extent as the item it is replacing
<b>200</b>	<b>Changes to Manufacturing Facility</b>
201	Manufacturing plant location change for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
202	Manufacturing plant location change for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
203	Out of production over twelve months for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
204	Out of production over twelve months for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
205	Addition of a production line for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
206	Addition of a production line for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
207	Dismantling and restarting the production line for explosives or an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
208	Dismantling and restarting the production line for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
209	Machine Control Upgrades for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
210	Machine Control Upgrades for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
211	Replacing an existing piece of machinery or test equipment for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
212	Replacing an existing piece of machinery or test equipment for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
213	Adding a new machine for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
214	Adding a new machine for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
215	Machine Modification for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
216	Machine Modification for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
217	Changing the sequence of the manufacturing process that affects explosives or for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
218	Changing the sequence of the manufacturing process for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

219	Moving test equipment/machines within a facility for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
220	Moving test equipment/machines within a facility for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
<b>300</b>	<b>Changes to Manufacturing Processes</b>
301	Major change in manufacturing process (i.e. Casting instead of forging or hog-out)
302	Minor change in manufacturing process (i.e. Heating/Cooling durations, new rework processes, new lubricant material, in-process dimensional range) that affects explosives or for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
303	Minor change in manufacturing process (i.e. Heating/Cooling durations, new rework processes, new lubricant material, in-process dimensional range) for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
304	Replacement or major repairs to a casting and press molds for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
305	Replacement or major repairs to a casting and press molds for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
306	Minor changes to casting and press molds to maintain parting lines and reduce flashing for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
307	Minor changes to casting and press molds to maintain parting lines and reduce flashing for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
308	Preventative Maintenance or replacement of normal machining wear items (i.e. saw blades, cutting tools, etc.)
309	Performing normal machine offsets due to tool wear
310	Minor changes to work instructions that have no effect on the process (i.e. clarification)
<b>400</b>	<b>Changes to Material or Supply of Material</b>
401	Change in supplier of explosives or end item part for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
402	Change in supplier of end item part for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
403	Change in supplier of the material for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
404	Change in supplier of the material for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
405	Change in supplier for component within an end item part with a characteristic classified as Safety, Special, Critical, Major or Minor.
406	Change in supplier for component within an end item part without a characteristic classified as Safety, Special, Critical, Major or Minor.
407	Change from one qualified test laboratory to another qualified test laboratory for an item with a characteristic classified as Safety, Special, Critical, Major or Minor.
408	Change from one qualified test laboratory to another qualified test laboratory for an item without a characteristic classified as Safety, Special, Critical, Major or Minor.
<b>500</b>	<b>Plating and Coating</b>
501	New Supplier or Change in Supplier for <b>Plating or Coating</b>
502	Changes in the supply of chemicals used for cleaning or processing during <b>Plating or Coating</b>
503	Changes in cleaning, process times, temperatures, chemical concentrations, etc. used during <b>Plating or Coating</b>
<b>600</b>	<b>Changes Not Listed within Attachment 12</b>

**Q749 Commercial Item Ammo Data Card (EFF DATE 05/20/20)**

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

Seller shall prepare Ammunition Data Cards for all production lots of items in accordance with DI-MISC-80043 and MIL-STD-1168. Seller submittals shall consist of a single paper copy of each Ammunition Data Card.

Part numbers requiring Ammunition Data Cards are included in the Purchase Order (PO) or Section E of the Long Term Agreement (LTA). Subsequent modifications will be flowed through modifications to the PO or LTA.

#### **Q750 Supplier Production Readiness Verification (SPRV) (EFF DATE 05/20/20)**

GD-OTS requires a supplier production readiness verification (SPRV) to be completed at all supplier levels. The Seller shall request and complete GD-OTS provided SPRV forms after receipt of the initial GD-OTS purchase order/master sub contract agreement (MSA) for the FY19-23 USG prime contract. SPRV forms shall also be completed for the Seller's sub-tier suppliers.

GD-OTS reserves the right to suspend validation activities and/or acceptance of product, pending completion of the SPRV form or pending completion of corrective actions resulting from the SPRV review.

#### **Q751 Partial Shipments Not Allowed (EFF DATE 05/20/20)**

Partial lot shipments are not allowed for this item without written pre-approval from GD-OTS. The full lot quantity produced must be delivered in one shipment.

#### **Q752 Foreign Object Debris (FOD) (EFF DATE 05/20/20)**

Seller shall make provisions to prevent, detect, and remove foreign objects from finished product for this purchase order.

#### **Q753 Use of Significant Digits in Test Data to Determine Conformance with Specifications (EFF DATE 05/20/20)**

Unless otherwise specified by the Technical Data Package (TDP), for purposes of determining conformance with these specifications, all specified (dimensional tolerance as defined within the Hydra TDP) limits are absolute limits, as defined in ASTM Practice E29, for Using Significant Digits in Test Data to Determine Conformance with Specifications. When the ITE has a resolution greater than the TDP requirement, the result shall be reported at least one digit beyond the number of significant digits defined by the TDP. When guard banding is applied the result shall be reported to the number of significant digits defined by the TDP at minimum and one digit beyond if the ITE has a resolution greater than the TDP requirement.

Reading ITE: If a TDP diameter is specified as  $3.0 \pm 0.1$  inch (absolute method), and measured with ITE with a resolution to the nearest 0.001 inch, then at the lower specification limit a measured value of 2.900 is (barely) passing and 2.899 would be considered failing and at the upper specification limit a measured value of 3.100 is (barely) passing and 3.101 would be considered failing. Under the absolute method, the

# GENERAL DYNAMICS

## Ordnance and Tactical Systems

### QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)

ITE shall be read and evaluated to the full resolution of the gage regardless of the stated number of TDP significant digits.

Reporting reading: For purposes of reporting the result in the example above without guard banding, if a passing measurement was read the result of 2.90 would be recorded and if a failing measurement was read a result of 2.89 would be recorded. If guard banded, a passing measurement of 2.90 would be recorded and a failing measurement of 2.89 would be recorded if the ITE has a resolution greater than the TDP requirement. The exception to the above reporting reading rules is if the first digit beyond the TDP requirement ends in a zero and the ITE reports a non-zero value at any place beyond. In that case all ITE significant digits shall be reported to reflect the failing result. For example in the case noted above, the failing result of 3.101 would be reported.

#### **Q754 Conformance, Safety, and Ethics Awareness (EFF DATE 05/20/20)**

The items and/or services being procured under the terms of this purchase order or solicitation may be used in the production of defense articles. End users include United States military personnel and foreign countries friendly to the United States. Adherence to all purchase order, drawing, specification, work instruction, and or SOW requirements is critical to assuring the reliability and safety of the end product. Your organization is responsible for ensuring that persons are aware of their contribution to product or service conformity, to product safety and the importance of ethical behavior. We expect all GD-OTS suppliers to conduct business in compliance with all applicable laws and regulations, as well as maintain a high level of business ethics. General Dynamics is dedicated to the highest ethics in its business dealings. Code of Ethics: General Dynamics expects our partners in business to abide by Federal Acquisition Regulation 52.203-13 Contractor Code of Business Ethics and Conduct and to always conduct business in a fair and ethical manner.

#### **Q755 - Counterfeit Part Prevention (EFF DATE 06/03/20)**

**This clause requires the following SDRL deliverable(s): [S031](#) - See Exhibit A for details.**

The Seller shall establish a counterfeit parts prevention program and prepare, or update the existing Counterfeit Risk Management Plan for submittal and approval in Seller format no later than 60 calendar days after contract award. The Plan shall meet the requirements of SAE AS5553 for electronics, and shall provide risk mitigation for items not considered electronics.

#### **Q756 - Obsolescence and DMSMS (EFF DATE 06/03/20)**

The Supplier shall develop and maintain an Obsolescence and Diminishing Manufacturing Sources and Material Shortages (DMSMS) management program to ensure continued availability of high quality and reliable parts, assemblies and materials throughout the performance of this contract.

The Supplier's DMSMS management procedures shall address proactive forecasting and associated design tradeoffs to minimize life cycle vulnerability. Reactive efforts shall address cost effective solutions for

**GENERAL DYNAMICS**  
Ordnance and Tactical Systems

**QS-AP-52.0.2 Rockets Quality Clauses (Q701 through Q757)**

DMSMS events, including obsolescence identified during fabrication or in fielded units. Seller shall flow the substance of this clause to its subcontractors, including this sentence, changing the relationship of the parties as appropriate to preserve the intent of the words.

**Q757 – Supplier Corrective Action Request (8/20/24)**

The Seller agrees to provide a formal response to all Supplier Corrective Action Request (SCAR) issued by GD-OTS within the timeframe indicated on the SCAR. Formal response shall include a completed 5-why form or alternate root cause analysis tool, along with a completed 8D form. GD-OTS templates will be provided at time of supplier corrective action request. A supplier corrective action request guide can be obtained at the GD-OTS Supplier Resources & Quality Clause site ([Hydra-70 Quality Clauses \(gd-ots.com\)](https://gd-ots.com)).

Seller shall contact GD-OTS, when the material associated with a SCAR investigation has not been returned to the Seller, or if more time is required to adequately perform an investigation.

Failure to provide a formal SCAR response within the established timeframe shall adversely affect your supplier quality rating and may impact future procurements.